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- Some suggestions as to interesting and unusual ways of working up a local flora can also be found in Beal & Wheeler's Michigan Flora (1892), and on the first thirty pages of Beal's Michigan Flora (Fifth Report Mich. Acad. Sci., 1904).

OTHER TERATOLOGICAL NOTES

BY S. B. PARISH

1. *Foliar fission in Polystichum munitum.*—A plant of this fern, growing in the San Bernardino Mountains, exhibited in its different fronds a wide range in the extent to which they were affected by fission. This was very slight in some, but in others the normal form of the pinnae was greatly modified. The accompanying figure, from a drawing by Mrs. C. M. Wilder, renders further description unnecessary.

2. *Polyphyly of the Gynecium in Washingtonia.*—The ovary of *Washingtonia* consists of three conjoined carpels uniting in a common style. In a flower of *W. gracilis* two such ovaries, entirely distinct throughout, were included in the same calyx.

This organ was consequently oblong in section, instead of circular, and it was irregularly 6-lobed in place of 3-lobed. The petals and stamens were broken off, so that their number could not be certainly ascertained, but apparently it was not augmented.



Foliar fission in *Polystichum munitum*.

The same monstrosity is common in southern California in budded peaches. As many as half the flowers on a tree may exhibit an increase in the number of pistils. Usually there are

two, but not seldom three, four, or five in number. In most instances but one matures. In these trees the petals are much reduced. In unbudded trees, which bear flowers having well developed petals, I have not observed this deformity.

3. *Syncarpy*.—Two flat, disc-like fruits of summer squash were united at the edges for the distance of about two inches, and thence by a narrow process running to the base. The two fruits were fully grown, and of equal size.

Syncarpy also occurs in the peach, but is confined, so far as I have observed, to the fusion of but two carpels. The sarcocarps are only imperfectly fused, being more or less separated by epidermis, although the general outline may be regular. The two putamens are united by their margins below, and are separate and divergent above. The seeds and seed-cavities are unconnected. This also has been observed only in budded fruit.

4. *Floral Deformations in Lepidium Menziesii*.—In each of two specimens of this plant, collected in the San Bernardino Mountains, the following deformations were present:

Some short branches terminated in naked condensed clusters of imperfect flowers, resembling minute cauliflower heads.

Other stems bore more diffuse clusters of fewer flowers, which were composed of organs resembling the filaments of stamens, destitute of anthers. These were white in color, indefinite in number, but mostly more numerous than the sum of the members of a perfect flower. Some were naked; others had small foliaceous green sepals, and these again were elongated and bract-like.

Below these terminal clusters the stems bore pedicellate flowers, as in normal plants, and of about the ordinary size, but also variously deformed. The two outer floral cycles were green and foliaceous. Some were oval and concave, the inner (petals) purple-margined; others were linear, or linear-spatulate, and up to 3 mm. long. In these flowers the inner cycles were either entirely wanting, or were represented by clusters of filaments, either sessile or elevated on a short prolongation of the axis; or they contained antheriferous stamens, the anther cells sometimes separated, or stamens which were more or less foliaceous.

Again, the stamens were entirely aborted, but the carpels were present, and then these were raised on a stipe, simulating the Capparidaceae. These carpels were short-clavate, divided nearly to the base, but not crested, two-celled, and infertile. Or the pistil was represented by a pair of opposed, separated, linear leaves, as much as 3-4 mm. long; or a pair of oblong, concave, foliaceous organs inclosing a pair of shorter linear leaves. In the last case the outer pair of leaves probably represent the capsule and the inner pair the seeds.

SAN BERNARDINO, CALIFORNIA.

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* Britton, Nathaniel Lord, with the assistance of John Adolph Shafer. North American Trees. Large 8vo. x + 894. f. 1-781. 1908. New York. Henry Holt and Company. \$7.